

Application Number: 10/564,170
Amendment dated: July 17, 2007
Reply to Office Action dated: April 18, 2007

The following Listing of Claims will replace all prior versions of claims in the application:

Listing of Claims

1. (Currently Amended) A method of supplying a plasma torch with at least one gas in which the volume flow of the at least one gas is controlled, the method comprising:
determining a desired composition of the at least one gas to be supplied to a plasma torch;
providing, from at least one gas source, a volume of the desired composition of the at least one gas to the plasma torch; and

effecting volume flow control of the at least one gas to the plasma torch by using pressure control to adjust the level of the total volume of the at least one gas flowing through the plasma torch and using volume flow control to adjust volume flow portions producing the total volume flow of the at least one gas flowing through the plasma torch, thereby producing the desired composition of the at least one gas; and

controlling the at least one volume flow of the at least one gas on the basis of at least one of calorimetric measurement of the volume flow, measurement of the volume flow from differential pressure, and measurement of the pulse movement of the volume flow.

2. (Previously Amended) The method of claim 1 further comprising supplying the at least one gas as a mixed gas to the plasma torch.

3. (Previously Amended) The method of claim 1 further comprising supplying the at least one gas as a gas mixture to the plasma torch.

4. (Previously Amended) The method of claim 1 further comprising measuring the pressure of the at least one gas upstream of the plasma torch.

5. (Previously Amended) The method of claim 1 further comprising directly measuring the pressure of the at least one gas between an electrode and a nozzle in the interior of the plasma torch.

6. (Previously Amended) The method of claim 1 further comprising using at least one volume flow controller to effect volume flow control of the at least one gas, and measuring pressure of the at least one gas between the at least one volume flow controller and the plasma torch.

7. (Previously Amended) The method of claim 1 further comprising, using at least one volume flow controller to effect volume flow control of the at least one gas, and measuring pressures of individual gases of the at least one gas between the at least one volume flow

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